SA 1796. Mr. DURBIN (for himself and Ms. MURKOWSKI) submitted an amendment intended to be proposed by him to the bill S. 1260, to establish a new Directorate for Technology and Innovation in the National Science Foundation, to establish a regional technology hub program, to require a strategy and report on economic security, science, research, innovation, manufacturing, and job creation, to establish a critical supply chain resiliency program, and for other purposes; which was ordered to lie on the table; as follows:

Strike section 2214 and insert the following:

SEC. 2214. CRITICAL MINERALS MINING, RECYCLING, AND ALTERNATIVE TECHNOLOGIES RESEARCH.

(a) CRITICAL MINERALS MINING, RECYCLING, AND ALTERNATIVE TECHNOLOGIES RESEARCH AND DEVELOPMENT AT THE FOUNDATION.—

(1) IN GENERAL.—In order to support supply chain resiliency and reduce the environmental impacts of critical minerals mining, the Director shall issue awards, on a competitive basis, to institutions of higher education, nonprofit organizations, or National Laboratories (or consortia of such institutions or organizations, including consortia that collaborate with private industry) to support basic research that will accelerate innovation to advance critical minerals mining, recycling, and reclamation strategies and technologies for the purpose of making better use of domestic resources, finding alternative technologies, and eliminating national reliance on minerals and mineral materials that are subject to supply disruptions.

(2) USE OF FUNDS.—Activities funded by an award under this section may include—

(A) advancing mining research and development activities to develop new mapping and mining technologies and techniques, including advanced critical mineral extraction and production, to improve existing or to develop new supply chains of critical minerals, and to yield more efficient, economical, and environmentally benign mining practices;

(B) advancing critical mineral processing research activities to improve separation, alloying, manufacturing, or recycling techniques and technologies that can decrease the energy intensity, waste, potential environmental impact, and costs of those activities;

(C) advancing research and development of critical minerals mining and recycling technologies that take into account the potential end-uses and disposal of critical minerals, in order to improve end-to-end integration of mining and technological applications;

(D) conducting research and development on alternative technologies, such as in battery or energy storage technologies that minimize or do not incorporate critical minerals;

(E) conducting long-term earth observation of reclaimed mine sites, including the study of the evolution of microbial diversity at such sites;

(F) examining the application of artificial intelligence for geological exploration of critical minerals, including what size and diversity of data sets would be required;

(G) examining the application of machine learning for detection and sorting of critical minerals, including what size and diversity of data sets would be required;

(H) conducting detailed isotope studies of critical minerals and the development of more refined geologic models; or

(I) providing training and research opportunities to undergraduate and graduate students to prepare the next generation of mining engineers and researchers.

(b) CRITICAL MINERALS INTERAGENCY SUBCOMMITTEE.—

(1) IN GENERAL.—In order to support supply chain resiliency, the Critical Minerals Subcommittee of the National Science and Technology Council (referred to in this subsection as the ''Subcommittee'') shall coordinate Federal science and technology efforts to ensure secure and reliable supplies of critical minerals to the United States.

(2) PURPOSES.—The purposes of the Subcommittee shall be—

(A) to advise and assist the Committee on Homeland and National Security and the National Science and Technology Council on United States policies, procedures, and plans as it relates to critical minerals, including—

(i) Federal research, development, and deployment efforts to optimize methods for extractions, concentration, separation, and purification of conventional, secondary, and unconventional sources of critical minerals, including research that prioritizes end-to-end integration of mining and recycling techniques and the end-use target for critical minerals;

(ii) efficient use and reuse of critical minerals, including recycling technologies for critical minerals and the reclamation of critical minerals from components such as spent batteries;

(iii) research, development, and deployment of materials and technologies that can be used in place of technologies utilizing critical minerals, such as battery or energy storage technologies that minimize or do not incorporate critical minerals;

(iv) addressing the technology transitions between research or lab-scale mining and recycling and commercialization of these technologies;

(v) the critical minerals workforce of the United States; and

(vi) United States private industry investments in innovation and technology transfer from federally funded science and technology;

(B) to identify emerging opportunities, stimulate international cooperation, and foster the development of secure and reliable supply chains of critical minerals, including activities related to the reclamation of critical minerals via recycling and research and development of alternative technologies;

(C) to ensure the transparency of information and data related to critical minerals; and

(D) to provide recommendations on coordination and collaboration among the research, development, and deployment programs and activities of Federal agencies to promote a secure and reliable supply of critical minerals necessary to maintain national security, economic well-being, and industrial production.

(3) RESPONSIBILITIES.—In carrying out paragraphs (1) and (2), the Subcommittee may, taking into account the findings and recommendations of relevant advisory committees—

(A) provide recommendations on how Federal agencies may improve the topographic, geologic, and geophysical mapping of the United States and improve the discoverability, accessibility, and usability of the resulting and existing data, to the extent permitted by law and subject to appropriate limitation for purposes of privacy and security;

(B) assess the progress toward developing critical minerals recycling and reprocessing technologies, and alternative technologies;

(C) assess the end-to-end lifecycle of critical minerals, including for mining, usage, recycling, and end-use material and technology requirements;

(D) examine options for accessing and developing critical minerals through investment and trade with allies and partners of the United States and provide recommendations;

(E) evaluate and provide recommendations to incentivize the development and use of advances in science and technology in the private industry;

(F) assess the need for and make recommendations to address the challenges the United States critical minerals supply chain workforce faces, including—

(i) aging and retiring personnel and faculty;

(ii) public perceptions about the nature of mining and mineral processing; and

(iii) foreign competition for United States talent;

(G) develop, and update as necessary, a strategic plan to guide Federal programs and activities to enhance—

(i) scientific and technical capabilities across critical mineral supply chains, including a roadmap that identifies key research and development needs and coordinates ongoing activities for source diversification, more efficient use, recycling, and alternative technologies; and

(ii) cross-cutting mining science, data science techniques, materials science, manufacturing science and engineering, computational modeling, and environmental health and safety research and development; and

(H) report to the appropriate committees of Congress on activities and findings under this subsection.

(4) MANDATORY RESPONSIBILITIES.—In carrying out paragraphs (1) and (2), the Subcommittee shall, taking into account the findings and recommendations of the relevant advisory committees, identify and evaluate Federal policies and regulations that restrict the mining of critical minerals.

(c) GRANT PROGRAM FOR DEVELOPMENT OF CRITICAL MINERALS AND METALS .—

(1) ESTABLISHMENT.—The Secretary of Commerce, in consultation with the Director, the Secretary of the Interior, and the heads of other relevant Federal agencies, shall establish a grant program to finance pilot projects for the development of critical minerals and metals mining, recycling, and alternative technologies research and development in the United States.

(2) LIMITATION ON GRANT AWARDS.—A grant awarded under paragraph (1) may not exceed $10,000,000.

(3) ECONOMIC VIABILITY.—In awarding grants under paragraph (1), the Secretary of Commerce shall give priority to projects that the Secretary of Commerce determines are likely to be economically viable over the long term.

(4) SECONDARY RECOVERY.—In awarding grants under paragraph (1), the Secretary of Commerce shall seek to award not less than 30 percent of the total amount of grants awarded during the fiscal year for projects relating to secondary recovery of critical minerals and metals.

(5) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to the Secretary of Commerce $100,000,000 for each of fiscal years 2021 through 2024 to carry out the grant program established under paragraph (1).

(d) DEFINITIONS.—In this section:

(1) ALTERNATIVE TECHNOLOGIES.—The term ''alternative technologies'' means the development of substitute materials that can substantially satisfy the metrics of the end-use application by either significantly minimizing or completely eliminating the need for critical minerals.

(2) CRITICAL MINERAL; CRITICAL MINERAL OR METAL.—The terms ''critical mineral'' and ''critical mineral or metal'' include any host

mineral of a critical mineral (within the meaning of those terms in section 7002 of the Energy Act of 2020 (30 U.S.C. 1606).

(3) END-TO-END.—The term ''end-to-end'', with respect to the integration of mining or life cycle of minerals, means the integrated approach of, or the lifecycle determined by, examining the research and developmental process from the mining of the raw minerals to its processing into useful materials, its integration into components and devices, the utilization of such devices in the end-use application to satisfy certain performance metrics, and the recycling or disposal of such devices.

(4) RECYCLING.—The term ''recycling'' means the process of collecting and processing spent materials and devices and turning them into raw materials or components that can be reused either partially or completely.

(5) SECONDARY RECOVERY.—The term ''secondary recovery'' means the recovery of critical minerals and metals from discarded end-use products or from waste products produced during the metal refining and manufacturing process, including from mine waste piles, acid mine drainage sludge, or byproducts produced through legacy mining and metallurgy activities.

SA 1797. Ms. CORTEZ MASTO (for herself, Mr. MANCHIN, Ms. MURKOWSKI, and Ms. HASSAN) submitted an amendment intended to be proposed to amendment SA 1502 proposed by Mr. SCHUMER to the bill S. 1260, to establish a new Directorate for Technology and Innovation in the National Science Foundation, to establish a regional technology hub program, to require a strategy and report on economic security, science, research, innovation, manufacturing, and job creation, to establish a critical supply chain resiliency program, and for other purposes; which was ordered to lie on the table; as follows:

Strike subsections (c) and (d) of section 2214 (relating to critical minerals mining research) of division B and insert the following:

(c) GRANT PROGRAM FOR PROCESSING OF CRITICAL MINERALS AND DEVELOPMENT OF CRITICAL MINERALS AND METALS.—

(1) ESTABLISHMENT.—The Secretary of Energy, in consultation with the Director, the Secretary of the Interior, and the Secretary of Commerce, shall establish a grant program to finance pilot projects for—

(A) the processing of critical minerals in the United States; or

(B) the development of critical minerals and metals in the United States.

(2) LIMITATION ON GRANT AWARDS.—A grant awarded under paragraph (1) may not exceed $10,000,000.

(3) ECONOMIC VIABILITY.—In awarding grants under paragraph (1), the Secretary of Energy shall give priority to projects that the Secretary of Energy determines are likely to be economically viable over the long term.

(4) SECONDARY RECOVERY.—In awarding grants under paragraph (1), the Secretary of Energy shall seek to award not less than 30 percent of the total amount of grants awarded during the fiscal year for projects relating to secondary recovery of critical minerals and metals.

(5) DOMESTIC PRIORITY.—In awarding grants for the development of critical minerals and metals under paragraph (1)(B), the Secretary of Energy shall prioritize pilot projects that will process the critical minerals and metals domestically.

(6) PROHIBITION ON PROCESSING BY FOREIGN ENTITY OF CONCERN.—In awarding grants under paragraph (1), the Secretary of Energy shall ensure that pilot projects do not export for processing any critical minerals and metals to a foreign entity of concern (as defined in section 2307(a)).

(7) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to the Secretary of Energy $100,000,000 for each of fiscal years 2021 through 2024 to carry out the grant program established under paragraph (1).

(d) DEFINITIONS.—In this section:

(1) CRITICAL MINERAL.—The term ''critical mineral'' has the meaning given the term in section 7002(a) of the Energy Act of 2020 (30 U.S.C. 1606(a)).

(2) CRITICAL MINERAL AND METAL.—The term ''critical mineral and metal'' includes any host mineral of a critical mineral.

(3) SECONDARY RECOVERY.—The term ''secondary recovery'' means the recovery of critical minerals and metals from discarded end-use products or from waste products produced during the metal refining and manufacturing process, including from mine waste piles, acid mine drainage sludge, or byproducts produced through legacy mining and metallurgy activities.

SA 1798. Ms. WARREN (for herself and Mr. SANDERS) submitted an amendment intended to be proposed to amendment SA 1502 proposed by Mr. SCHUMER to the bill S. 1260, to establish a new Directorate for Technology and Innovation in the National Science Foundation, to establish a regional technology hub program, to require a strategy and report on economic security, science, research, innovation, manufacturing, and job creation, to establish a critical supply chain resiliency program, and for other purposes; which was ordered to lie on the table; as follows:

At the end of title IV of division C, add the following:

SEC. 3409. REPORT ON UNFAIR COMPETITIVE ADVANTAGES DUE TO POOR LABOR AND ENVIRONMENTAL POLICIES AND PRACTICES.

(a) IN GENERAL.—Not later than one year after the date of the enactment of this Act, the Secretary of State, in coordination with the United States Trade Representative and the Secretary of Commerce, shall publish an unclassified report in the Federal Register that identifies, with respect to the 5 United States trading partners whose labor and environmental policies and practices are most concerning—

(1) unfair competitive advantages provided by a government of a country to companies in such country as a result of poor labor policies and practices, including—

(A) barriers to workers' access to independent unions;

(B) the enablement or toleration of forced labor;

(C) the enablement or toleration of child labor; and

(D) the failure of the Government to enforce labor laws and regulations, including law and regulations regarding minimum wage, safe working conditions, and overtime pay; and

(2) unfair competitive advantages provided by a government of a country to companies in such country as a result of poor environmental policies and practices, including—

(A) low air and water quality and pollution emissions standards;

(B) subsidies for polluting energy sources; and

(C) the failure of the Government to enforce environmental laws and regulations, including prohibitions against the dumping of waste.

(b) CONSULTATION.—In preparing the report required under subsection (a), the Secretary of State, in coordination with the United States Trade Representative and the Secretary of Commerce, may, as necessary and appropriate, consult with—

(1) other Federal agencies;

(2) the private sector; and

(3) civil society organizations.

SA 1799. Ms. HASSAN (for herself and Ms. ERNST) submitted an amendment intended to be proposed by her to the bill S. 1260, to establish a new Directorate for Technology and Innovation in the National Science Foundation, to establish a regional technology hub program, to require a strategy and report on economic security, science, research, innovation, manufacturing, and job creation, to establish a critical supply chain resiliency program, and for other purposes; which was ordered to lie on the table; as follows:

At the appropriate place, insert the following:

SEC. _____. VIRTUAL CURRENCIES AND THEIR GLOBAL USE.

(a) REPORT.—Not later than 2 years after the date of enactment of this Act, the Secretary of the Treasury, in consultation with the Attorney General, the United States Trade Representative, the Board of Governors of the Federal Reserve System, the Office of the Director of National Intelligence, and any other agencies or departments that the Secretary of the Treasury determines are necessary, shall submit to the Committee on Finance, the Committee on Banking, Housing, and Urban Affairs, and the Committee on the Judiciary of the Senate and the Committee on Ways and Means, the Committee on the Judiciary, and Committee on Financial Services of the House of Representatives a report on virtual currency, which shall—

(1) identify and rank the countries that host—

(A) the largest state and private industry generators of virtual currency;

(B) the largest state and private industry users of virtual currency; and

(C) the largest or most active money services businesses that engage in virtual currency transactions;

(2) identify policies adopted by the foreign countries listed in paragraph (3)to develop and protect their domestic virtual currency industry;

(3) identify, to the greatest extent practicable, the types and dollar value of virtual currency mined, as well as an estimate of the amount of energy consumed doing so for each of fiscal years 2016 through 2021 within the United States and globally, as well as within the People's Republic of China, the Islamic Republic of Iran, the Democratic People's Republic of Korea, the Bolivarian Republic of Venezuela, the Republic of Cuba, the Republic of the Union of Myanmar, the Syrian Arab Republic, and the Russian Federation;

(4) identify vulnerabilities, including those related to security, disruptions, and technology availability, of the global microelectronic supply chain with respect to virtual currency mining operations; and

(5) provide policy and legislative recommendations to address the issues identified in paragraphs (3) and (4).